

Docket No.: 33226/358001; SUN030251
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Gary R. Lauterbach

Confirmation No.: 3249

Application No.: 10/801,456

Art Unit: 2145

Filed: March 16, 2004

Examiner: R. J. Jakovac

For: REPLICATED SERVICE ARCHITECTURE

REPLY UNDER 37 C.F.R. § 1.111

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action dated March 6, 2008, please reconsider this application in view of the following.

AMENDMENTS TO THE SPECIFICATION

Please amend paragraph [0020] of the specification as follows:

[0020] Continuing with the discussion of Figure 2, in one embodiment of the invention, the router (168) operates using a lightweight communication protocol that supports sending and receiving broadcast messages (or multicast messages) while not requiring large amounts of overhead (*e.g.*, large headers, etc). Alternatively, the router (168) may use a heavy-weight protocol such Transmission Control Protocol (TCP) and Internet Protocol (IP). Those skilled in the art will appreciate that depending on the node topology, the router (168) may also include an appropriate routing algorithm to allow for communication between the nodes. In addition, the router (168) may include functionality to forward data from one node to another node (*e.g.*, router (168) may include functionality to “pass-through” data received from Node E (158) to Node B (152)). Further, in one embodiment of the invention, the routing protocol is designed to ~~operating~~ operate without requiring a master node to control the routing within the system, *i.e.*, the router implements a master-less routing policy.

Please amend paragraph [0026] of the specification as follows:

[0026] Continuing with the discussion of Figure 4, the node requesting the replicated service subsequently generates a request for a replicated service (Step 102). Depending on the communications protocol implemented in the multiprocessor system for the node, the request may be a broadcast request (or a multicast request), etc. After the request is generated, the request is subsequently sent to a first subset of nodes (Step 104). In one embodiment of the invention, the first subset of nodes may correspond to the nodes directly connected to the node requiring one or more replicated services. Alternatively, the first subset of nodes may include a set of nodes explicitly specified in the request, regardless of the location within the system. Alternatively, those skilled in the art will appreciate that the first subset of nodes may correspond[[s]] to any subset of nodes in the multiprocessor system.

Please amend paragraph [0027] of the specification as follows:

[0027] Continuing with the discussion of Figure 4, after the request is sent, the node sending the broadcast message (or a multicast message) subsequently waits to receive a response from each node in the first subset of nodes. The response should indicate whether any one of the nodes in the first subset of nodes has the requested replicated service available (Step 106). In one embodiment of the invention, when a node within the first subset of nodes receives a request for a replicated service from another node, the cache associated with the node receiving the request is examined. If the replicated service is listed in the cache, then a response is sent to the node that sent the request. The response indicates the availability of the replicated service. Those skilled in the art will appreciate that, in some instances, if the replicated service is not listed in the associated cache, the node receiving the request (via the operating system), may query the replicated services on the [[that]] node that received the request prior to responding to the request.

Please amend paragraph [0032] of the specification as follows:

[0032] Those skilled in the art will appreciate that a give node may also not respond to a request for a replicated service if the node is heavily loaded or ~~overload~~ overloaded. Accordingly, embodiments of the invention may also be applied to load balancing in multiprocessor system.

Please amend paragraph [0033] of the specification as follows:

[0033] As mentioned above, in one or more embodiments of the invention, the routers within the individual nodes include functionality to re-route network traffic from one node to another. Further, each node includes functionality to determine the status of any node in the system and to re-route the network traffic of any node in the system[[s]]. Thus, if a given node fails, the remaining nodes in the system are able to ascertain this fact and re-route network traffic to the remaining nodes, accordingly. Those skilled in the art will appreciate that the aforementioned functionality does not require a master

processor. Rather, each node co-operates with the other nodes such that all the network traffic is re-routed to the appropriate nodes.

Please amend paragraph [0034] of the specification as follows:

[0034] In one embodiment of the invention, all nodes within the multiprocessor system are governed by a set of rules that dictate how traffic is to be re-routed when a given node fails. These may be built into the nodes via software and/or hardware. Thus, when a given node fails, the remaining nodes, using the set of rules, ~~[[is]]~~ are able to successfully re-route the network traffic without requiring a master node/processor.